CLAIMS

1. An apparatus (100) to aid rehabilitation of hearing deficiencies comprising an electronic apparatus (AE) which has a port (101) for connection to a hearing aid adapter (AP) for programming and calibration of hearing aids or auditory prostheses (PA), said electronic apparatus comprising:

- a central processing unit (UC),

- a user interface (IU) for sending control signals imparted by the user to said central unit (UC),

- a display unit (UV) and at least one sound module (MS) respectively for displaying and listening to multimedia filmed recordings, and

- a memory unit (UM) for storage of data, multimedia files and software programs.

2. An apparatus according to claim 1, characterized in that it comprises a port (102) for connection to a telephone line (103).

3. An apparatus according to claim 2, characterized in that by means of said telephone line (103) a direct link is provided with at least one central unit (EC) situated in at least one hearing aid dispensing centre and with the Internet, so that operation of the system of the apparatus (100) can be governed remotely via the Internet or a dedicated telephone line.

4. An apparatus according to any one of the preceding claims, characterized in that said memory unit comprises:

- a multimedia database (DBM) comprising a plurality of multimedia filmed recordings depicting real-life situations that can be reproduced by means of the display unit (UV) and the sound modules (MS);

- a patient database (DBP) comprising data representing the patient's personal data and auditory status,

- at least one hearing aid programming module (MPPA) provided by the hearing aid manufacturers, and

- an expert system (SE) able to process the data representing the patient's auditory status contained in the patient database (DBP) in order to suggest the choice of a hearing aid (PA) and to programme and calibrate a hearing aid (PA).

5. An apparatus according to claim 4, characterized in that said multimedia database (DBM) further comprises a multimedia filmed recording representing the multimedia approach it is intended to follow in rehabilitating the patients hearing deficiency.

6. An apparatus according to claim 4 or 5, characterized in that said memory unit (UM) is provided with basic software (120) implemented to regulate operation of the apparatus (100) and hearing aid manufacturers' software (121) comprising the hearing aid programming modules (MPPA), said basic software (120) and said hearing aid manufacturers' software (121) being interfaced with each other and with an operating system (122) of the apparatus (100).

7. An apparatus according to claim 6, characterized in that said basic software (120) comprises:

- a multimedia module (125) to select and play the multimedia recordings present in the multimedia database (DBM),

- a recording module (126) to record the data representing the patient's auditory status in the patient database (DBP),

- an interface module (127) to interface the basic software (120) with the hearing aid manufacturers' software (121),

- an evaluation module (128) to evaluate on an objective basis the patient's speech comprehension, reaction to auditory stimuli and response after each calibration of the hearing aid, and

- a selection module (129) that, on the basis of the results of the audiometric evaluation, suggests to the hearing aid fitter the hearing aid best suited to solve the patient's problems.

8. A method for calibration of a hearing aid or auditory prosthesis (PA) comprising the following steps:

- first interaction between the hearing aid fitter and the patient to study the patient from an auditory and psychological viewpoint, in which, with the aid of multimedia recordings and questionnaires, data depicting the patient's subjective hearing status are obtained,

- audiometric examination to obtain data depicting the patient's objective hearing status,

- choice of hearing aid on the basis of the data obtained in the first interaction and from the audiometric evaluation,

- programming of the hearing aid on the basis of said data obtained from the first interaction and the audiometric examination.

9. A method according to claim 8, characterized in that it further comprises a second interaction between the patient and the hearing aid fitter in which the patient defines the problems experienced following fitting of the hearing aid and, with the aid of multimedia recordings and questionnaires reflecting the real-life situations in which the patient has had problems, new subjective data are provided on the patient's hearing status which are used for new programming and calibration of the hearing aid selected for the patient.

10. A method according to claim 8 or 9, characterized in that said first interaction step with the patient further comprises viewing by the patient of a multimedia recording which illustrates the multimedia approach it is intended to follow for rehabilitation of the patient's hearing impairment.

11. A method according to any one of claims 8 to 10, characterized in that said data defining the patient's subjective hearing status are obtained on the basis of parameters defining various auditory characteristics such as speech comprehension in silence (I), speech comprehension in noise (IR), speech comprehension in reverberating environments (SR), patient's reaction to quiet noises (D), patient's reaction to loud noises (F), and patient's reaction to the quality of sounds (Q).

12. A method according to any one of claims 8 to 11, characterized in that said first interaction between the patient and the hearing aid fitter further comprises a psychological evaluation of the patient to check his response and his cooperation with the hearing aid fitter's examination.